

**DRAFT SCREENING SITE INVESTIGATION
FOR THE
WHITE BROTHERS SMELTING COMPANY
BRIDESBURG ON THE DELAWARE
PHILADELPHIA, PENNSYLVANIA
ECKEL SITE NUMBER 320**

Prepared for

U.S. Environmental Protection Agency Region 3
Hazardous Property Cleanup Division
1650 Arch Street
Philadelphia, PA 19103

Prepared by

Tetra Tech EM Inc.
7 Creek Parkway, Suite 700
Boothwyn, PA 19061

Remedial Action Contract No. 68-S7-3002
Work Assignment No. 048-PAPA-03ZZ
Project No. I4185.47502.0903

February 22, 2007

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1.0 INTRODUCTION

Under Remedial Action Contract (RAC) No. 68-S7-3002, Work Assignment No. 048-PAPA-03ZZ, U.S. Environmental Protection Agency (EPA) Region 3 tasked Tetra Tech, Inc. (Tt), to assist EPA Region 3 in the assessment of properties suspected to have been former lead smelter foundries. Tt subcontracted completion of this work assignment to Tetra Tech EM Inc. (Tetra Tech).

Former lead smelter sites nationwide were identified in an April 2001 article published in the American Journal of Public Health by Eckel, and others (Eckel study) (Reference [Ref.] 1). The majority of these lead smelters operated prior to 1964 and closed before the current environmental regulations were instituted. As part of the Eckel study, soil samples were collected from several of the identified former lead smelter properties. Results from the analysis of these soil samples indicated that concentrations of lead exceeded EPA's recommended screening level for lead in residential soils. The results of the Eckel study indicate that the air disposition of lead into soils from the former smelter operations may present an ongoing public health concern due to exposure of residential populations, especially children, located in the vicinity of these former lead smelters, to soils containing elevated concentrations of lead (Refs. 1, 2, and 3).

The Eckel study identified 77 properties that may have been formerly used as lead smelters within EPA Region 3 (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia). EPA Region 3 is currently investigating these 77 properties. The objective of EPA's investigation of these properties is to (1) determine the potential for lead-contaminated soil to be present at the former lead smelter site or nearby properties (2) identify any populations that may be at risk to exposure to this soil, and (3) determine if soil sampling is warranted at any of these sites or nearby properties.

The following activities were completed as part of the initial screening investigation of each of these former lead smelter sites: (1) verify the former lead smelter address listed in the Eckel

study through historical Sanborn fire insurance maps, tax parcel information, and/or contacting local agencies, (2) determine if the site is listed in EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database, (3) determine through census information and existing maps the number of schools, daycare centers or recreational parks that exist near the former lead smelter site, (4) determine the population residing within a 4-mile radius of the site, (5) conduct a windshield reconnaissance of the site and surrounding area to document the current land use, identify any exposed soil and verify the existence of any schools, daycare centers or parks in the immediate area, and (6) review all information acquired to determine if the collection and analysis of soil samples is warranted at the site or at any nearby property.

This report summarizes the findings of the tasks outlined above for the former lead smelter known as the White Brothers Smelting site located at Bridesburg on the Delaware, Philadelphia, Pennsylvania, 19137. Each former smelter property was given a number in Eckel's study. The Eckel study number for this site is 320 (Ref. 1).

2.0 SITE LOCATION

The former White Brothers Smelting facility was located in Bridesburg on the Delaware, Philadelphia, Pennsylvania, 19137. The approximate geographic coordinates of the former White Brothers Smelting facility are 39.993975 north latitude and 75.068852 west longitude on the Camden, New Jersey-Pennsylvania Quadrangle, 7.5 minute series, United States Geological Survey topographic map (see Appendix A, Figure 1). The site is not currently listed in EPA's CERCLIS database (Ref. 4). An aerial photograph of the vicinity of the former lead smelter site has been included in Appendix A, Figure 2. This aerial photograph reveals the exposed soils and any identified areas of potential concern such as schools, daycare centers, or parks located within a half-mile radius of the site.

3.0 SITE OBSERVATIONS

On October 13, 2005, Tetra Tech completed a non-sampling windshield reconnaissance of the White Brothers Smelting Company site and surrounding area. A photographic record of the current site conditions is included in Appendix B. Figure 3, shows the current layout of the site and surrounding area as observed during Tetra Tech's site reconnaissance. The following observations were recorded:

- The subject property is a large vacant area located in a mixed industrial and residential area. The subject property is mostly exposed soils with remnants of old building foundations and access roads.
- The subject property is bordered to the north by Garden Street, to the south by the Delaware River, and to the west by Orthodox Street. A residential area borders the site to the north-northwest along Bath Street. A large warehouse, Quick Way Transfer Station, is located west of the subject property on Orthodox Street. Several industrial properties are located to the west and southwest of the subject property along Hedley Street.
- A park containing baseball fields, a playground, and tennis and basketball courts is located adjacent to the northeast corner of the subject property.
- Exposed soil exists in the immediate vicinity on the subject property itself, on the adjacent residential yards, and the baseball field.

4.0 POTENTIAL TARGETS

Potential targets identified that may be exposed to lead-contaminated soils remaining in the vicinity of the former White Brothers Smelting Company site include the nearby residential population, children attending schools, visitors to parks or recreational areas, and any workers

that me be employed at or in the nearby vicinity of the site.. The population within a 4-mile radius of the site is summarized in the table below (Ref. 5).

Population within a Four-mile Radius of the Site

Distance Ring (miles)	Population (number of persons)
0.0 to 0.25	168
0.25 to 0.5	728
0.5 to 1.0	1,078
1.0 to 2.0	2,805
2.0 to 3.0	8,770
3.0 to 4.0	27,682

Source: U.S. Department of Commerce. Landview V Environmental Mapping Software based on the Bureau of Census 2000 Population Data. December 6, 2005.

No daycare centers were identified within one-half mile of the site. A park containing baseball fields, a playground, and tennis and basketball courts is located adjacent to the northeast corner of the site. Two schools are located within one-half mile of the site. Bridesburg Elementary is located on the northeast side of the park that borders the site boundary and All Saints School is located one-quarter mile north of the site.

5.0 FINDINGS AND RECOMMENDATIONS

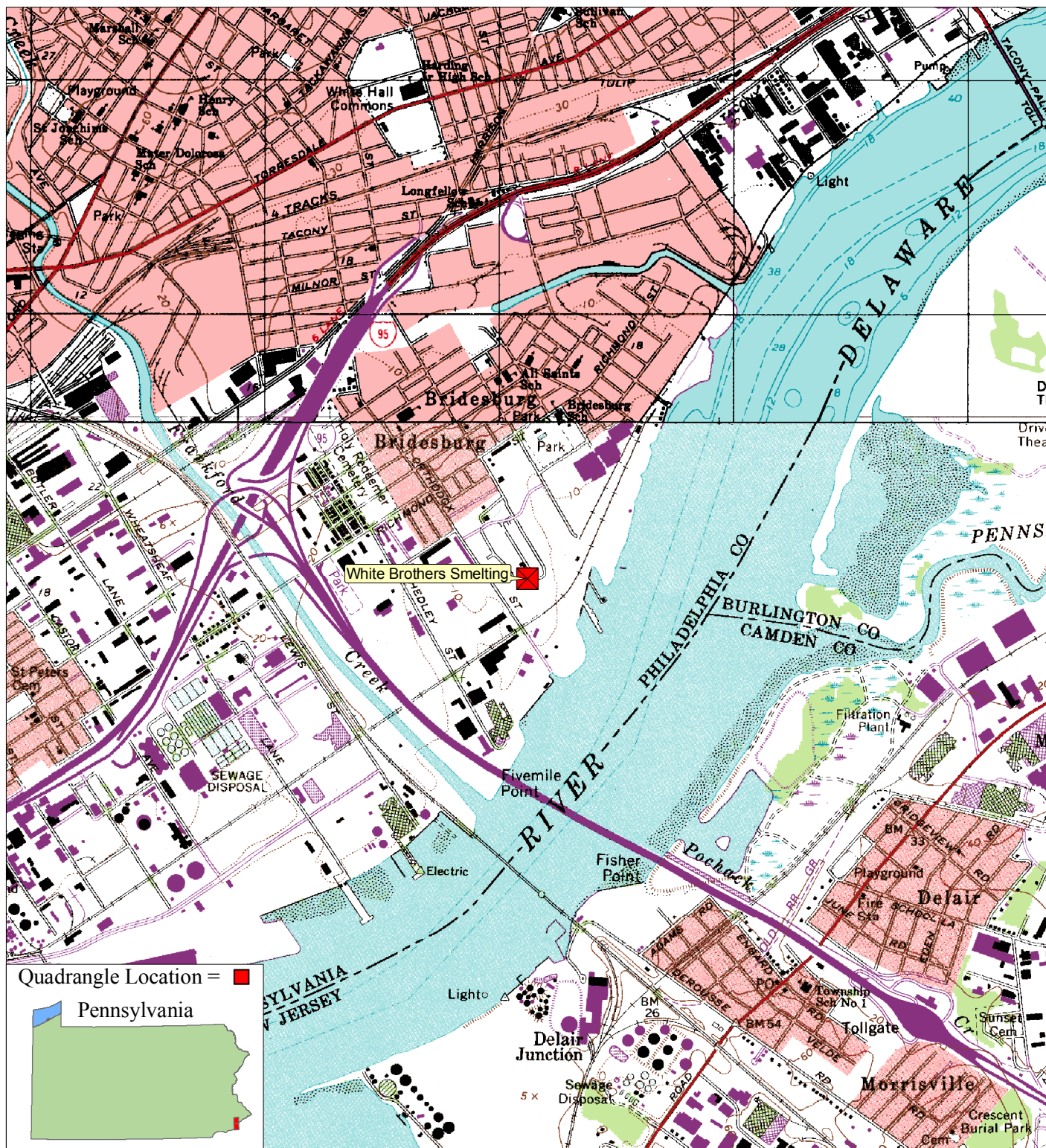
The site is located in a mixed industrial and residential area of Philadelphia, Pennsylvania. Exposed soils were observed on the site and in the nearby vicinity. The former lead smelter property is bordered to the north by residential properties and to the northeast by a park containing a playground and baseball fields beyond which is a school; therefore, to determine if there is a threat to the nearby residential population and visitors to the recreational fields bordering the site from elevated levels of lead in soils, it is recommended that soil samples be collected from exposed soils on the site, in nearby residential yards and the park and analyzed for lead levels.

REFERENCES

1. Eckel, W.P., Rabinowitz, M.B., Foster, G.D. American Journal of Public Health. "Discovering Unrecognized Lead-Smelting Sites by Historical Methods". April 2001.
2. Pennsylvania Department of Health. Suspected Former Lead Smelter Sites: A Potential Risk Factor for Childhood Lead Poisoning. August 2004.
3. U.S. Environmental Protection Agency (EPA). Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities. OSWER Directive 9355.4-12. July 14, 1994.
4. U.S. EPA. Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) database. On-Line Address: <http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm>
5. U.S. Census Bureau. State and County Quick Facts. Accessed On-Line on December 6, 2005. On-Line Address: quickfacts.census.gov/qfd/states/42.html.





Appendix A


Figures





Legend

-  School
-  0.5-Mile Buffer
-  Parks
-  Approximate site boundary

0 500 1,000
 Feet
 Scale in Feet

White Brothers Smelting
 Bridesburg on the Delaware
 Philadelphia, Pennsylvania
 Eckel Site No. 320

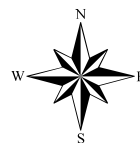
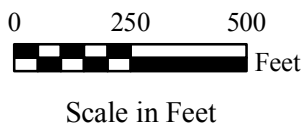
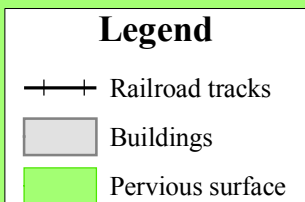


Figure 2
 Aerial Photograph

Source: Modified from Digital Orthophoto (DOQQ) MrSID mosaic for
 Camden Quadrangle (NAPP III, 1997-2001)





White Brothers Smelting
Bridesburg on the Delaware
Philadelphia, Pennsylvania
Eckel Site No. 320

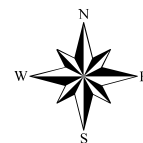


Figure 3
Site Layout Map

Source: Modified from Philadelphia City Planning Commission (PCPC) Department - GIS Division, 2006.



Appendix B
Photographic Documentation



Photographic Documentation

Site Name: White Brothers Smelting - Eckel Number 320

Location: Bridesburg on the Delaware, Philadelphia, Pennsylvania

Prepared by: Tetra Tech EM Inc.

Photographer: [REDACTED]

Photograph No. 1

Photograph Date:

October 13, 2005

Description: View of dilapidated building located on the subject property.



Photograph No. 2

Photograph Date:

October 13, 2005

Description: Entrance gate to Quick Way Transfer Station Warehouse located across Orthodox Street to the west of the former White Brothers Smelting site.





Photographic Documentation

Site Name: White Brothers Smelting - Eckel Number 320

Location: Bridesburg on the Delaware, Philadelphia, Pennsylvania

Prepared by: Tetra Tech EM Inc.

Photographer: [REDACTED]

Photograph No.

Photograph Date:
October 13, 2005

Description: Looking southwest down Bath Street from site towards Betsy Ross Bridge.



Photograph No.

Photograph Date:
October 13, 2005

Description: View of vacant portion of subject property.





Photographic Documentation

Site Name: White Brothers Smelting - Eckel Number 320

Location: Bridesburg on the Delaware, Philadelphia, Pennsylvania

Prepared by: Tetra Tech EM Inc.

Photographer: [REDACTED]

Photograph No.

Photograph Date:
October 13, 2005

Description: Industrial property located southwest of subject property along Hedley Street.

